

ABSTRACT OF THE INVENTION

A medical device production and supply information management system synchronous with manufacturing, planning and scheduling, product consumption forecast and component purchase to enable just-in-time inventory control at the manufacturing facility, vendor stocks, material/product tracking, distribution and shipping management, to thereby reduce inventory at all points in the product manufacturing distribution/delivery chain. The system is implemented using a preferably Web-enabled information network and data communication with a programmer. The programmer provides access to product information, specification and related data for implanted medical devices from which build-to-order or build-to-replenish commands are issued to the manufacturing center. The system is interactive within the information management system that is integrally and seamlessly connected with patients, hospitals, sales offices and related consumption hubs, including manufacturing facilities. One aspect of the present invention includes a data base containing the information management system, that may download all pertinent software relative to the implanted device to an automated manufacturing line. Procedurally, the database is examined to determine if there are any custom specifications required for the build-to-replenish or build-to-order. In the event there are custom requirements, the database retrieves any custom software which is then downloaded into the device's firmware, during the build-to-replenish or build-to-order. A standard data set will include the device type, model number, serial number, name of the implanting physician, the name of the sales representative and the name of the implanting institution. A customized data set may include, for example, specific functions and/or features, a patient warning alarm, a voice alert in the patient's own language, customized shipping parameters, shipping labels, patient's name and identification number, scheduled date of implant, and/or the location where the implant is to take place, as well as a sufficient inventory management system level. All this data, when received, will automatically initiate a build-to-order replenishment to match and replace the customized device implanted at that institution. Once an order is made, the manufacturing data base will determine

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whether all components are required to complete the order available at the factory site located nearest the implanting institution. In the event components are not available, the manufacturing database issues an order to the component supplier. In this manner, the invention enables management of inventory levels of medical devices through the interacting information management system by timely and accurately sharing information across the various hubs, thereby ensuring manufacturing efficiency and cost control throughout the chain of production and supply.